EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	138	(KOCHER near PAUL) (JAFFE near JOSHUA) (JUN near BENJAMIN) (CRYPTOGRAPHY NEAR RESEARCH)	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 09:53
L2	81	1 and ((measur$5 study$3 analy$6 review$3 determin$7) near3 (attribut$3 radiat$3 electromagnetic power electric$3 voltage current noise signal$3 consum$6))	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 09:54
L3	11	2 and (command$3 signal$3 instructi$4) near3 (send$3 transmit$4)	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 09:57

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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L4	167	380/1	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 09:57
L5	60	4 and (command$3 signal$3 instructi$4 order$3) near3 (send$3 transmit$4 giv$3)	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 09:59
L6	18	5 and ((measur$5 study$3 analy$6 review$3 determin$7) near3 (attribut$3 radiat$3 electromagnetic power electric$3 voltage current noise signal$3 consum$6))	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 10:01
L7	6	6 and @ad<"19980615"	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 10:02

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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L8	145301	"380"/$.ccls. "713"/$.ccls. "726"/$. ccls. "705"/$.ccls. "709"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 10:03
L9	59517	8 and (command$3 signal$3 instructi$4 order$3) near3 (send$3 transmit$4 giv$3)	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 10:03
L15	554	9 and (((digit$5 analog) adj3 (convert$3 device component)) same key)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/11 10:16
L16	511	15 and ((measur$5 stud$4 analy$4 analytical$3 reviewS3 determin$5 calculat$3 comput$5 assess$4 quantif$4 evaluat$3 consum$6 us$3 utiliz$3) near3 (attribut$3 radiat$3 electromagnetic power electric$3 voltage current noise signalS3 consum$6 us$3 utiliz$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/11 10:17
L17	91	16 and @ad<"19980615"	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 10:20
L18	91	16 and @ad<"19980615"	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2007/06/11 10:20
L19	12	18 and (key cryptograph$6 secret cod$3) near3 (leak$3 reveal$3 expos$3 disclos$3 uncover$3 revelation giveaway)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2007/06/11 10:21

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L22	3476	(analog adj3 (convert$3 device component)) same key	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	ON	2007/06/11 10:23
L24	166	22 and (key cryptograph$6 secret cod$3) near3 (leak$3 reveal$3 expos$3 disclos$3 uncover$3 revelation giveaway)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	ON	2007/06/11 10:25
L25	48	24 and @ad<"19980615"	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	ON	2007/06/11 10:25
L26	31	25 and (command$3 signal$3 instructi$4 order$3) near3 (send$3 transmit$4 giv$3)	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/11 10:26
L27	27	26 and ((measur$5 stud$4 analy$4 analytical$3 review$3 determin$5 calculat$3 comput$5 assess$4 quantif$4 evaluat$3 consum$6 us$3 utiliz$3) near3 (attribut$3 radiat$3 electromagnetic power electric$3 voltage current noise signal$3 consum$6 us$3 utiliz$3))	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	OR	ON	2007/06/11 10:30

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S35	3	"6070795".pn. "6247129".pn. "6393567".pn.	USPAT	OR	OFF	2007/06/11 00:19
S36	0	krathleg	USPAT	OR	OFF	2007/06/11 00:19
S37	13	"4225962".pn. "4669117".pn. "4932057".pn. "4937866".pn. "5068894".pn. "5086467".pn. "5157725".pn. "5165098".pn. "5181243".pn. "5216713".pn. "5249294".pn. "5477039".pn. "5944917".pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/06/11 00:29
S38	16	S35 S37	US-PGPUB; USPAT; USOCR	OR	OFF	2007/06/11 00:29
S39	0	S38 and statistic$3 near5 key	US-PGPUB; USPAT; USOCR	OR	OFF	2007/06/11 00:30
S40	2	S38 and statistic$3	US-PGPUB; USPAT; USOCR	OR	OFF	2007/06/11 00:31

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L28	14	(INFORMATIOn and key and (measur$4 study$3 analy$4 review$3 determin$5) and (command$3 signal$3 instruct$3) and (cryptograph$5 encrypt$3 decrypt$3) and (attribut$3 radiat$3 electromagnetic power electric$3 voltage signal$3 current) and (device equipment) and operat$3 and (leak$3 dispers$3 dissipat$4 discover$3 reveal$3 disclos$3) and (statistic$4 pattern history probabl$4)).CLM.	US-PGPUB	OR	ON	2007/06/11 10:32

Terms used
command key leaking analog measuring power converter attribute key

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1 An Ultra Low Power System Architecture for Sensor Network Applications

Mark Hempstead, Nikhil Tripathi, Patrick Mauro, Gu-Yeon Wei, David Brooks

May 2005 **ACM SIGARCH Computer Architecture News , Proceedings of the 32nd Annual International Symposium on Computer Architecture ISCA '05**, Volume 33 Issue 2

Publisher: IEEE Computer Society, ACM Press

Full text available: pdf(332.56 KB) Additional Information: full citation, abstract, citings, index terms

Recent years have seen a burgeoning interest in embedded wireless sensor networks with applications ranging from habitat monitoring to medical applications. Wireless sensor networks have several important attributes that require special attention to device design. These include the need for inexpensive, long-lasting, highly reliable devices coupled with very low performance requirements. Ultimately, the "holy grail" of this design space is a truly untethered device that operates off of energy sc ...

2 A real-time/time-share computer in a research and development environment

C. D. Longerot, J. E. Marceau

January 1971 **Proceedings of the 1971 26th annual conference**

Publisher: ACM Press

Full text available: pdf(878.06 KB) Additional Information: full citation, abstract, references, index terms

A centralized computer with high speed peripherals, mass storage and very flexible input/output ports provides eighteen remote laboratory terminals with real-time/time-share computer service. The EMR 6130 Computer with Sandia designed interfacing provides real-time response in research and development activities involving on-line data acquisition, analysis and display, and includes features which allow process control and equipment programming activities. The system supports a variety of co ...

Keywords: Centralized computer, Computer interfaces, Data acquisition/display, Data transmission, Equipment programming, Experiment interface, Experimenter data interaction, Real-time computer service, Real-time monitor, Remote laboratory terminals, Remote time-share service

3 Power Attack Resistant Cryptosystem Design: A Dynamic Voltage and Frequency Switching Approach

Shengqi Yang, Wayne Wolf, N. Vijaykrishnan, D. N. Serpanos, Yuan Xie

March 2005 **Proceedings of the conference on Design, Automation and Test in Europe - Volume 3 DATE '05**
Publisher: IEEE Computer Society
Full text available: pdf(291.83 KB) Additional Information: full citation, abstract, index terms

A novel power attack resistant cryptosystem is presented in this paper. Security in digital computing and communication is becoming increasingly important. Design techniques that can protect cryptosystems from leaking information have been studied by several groups. Power attacks, which infer program behavior from observing power supply current into a processor core, are important forms of attacks. Various methods have been proposed to countermeasure the popular and efficient power attacks. Howe ...

4 Mixed analog-digital design: On the dynamic behavior of a novel digital-only sigma--delta A/D converter
Marcel Jacomet, Josef Goette, Venanz Zbinden, Christian Narvaez
September 2004 **Proceedings of the 17th symposium on Integrated circuits and system design SBCCI '04**
Publisher: ACM Press
Full text available: pdf(293.94 KB) Additional Information: full citation, abstract, references, index terms

Conventional sigma-delta (ΣΔ) analog-to-digital (Ad) converters are based on an analog ΣΔ modulator followed by a digital filter. In this paper we propose a new architecture of a first-order ΣΔ modulator that needs *no active* analog components. We call this ΣΔ modulator "digital-only," and implement with it Ad converters in Fpga's or directly in the software of microprocessors. We here discuss aspects of the dynamic behavio ...

Keywords: ΣΔ modulator, A/D converter, FPGA

5 Color science and color appearance models for CG, HDTV, and D-CINEMA
Charles Poynton, Garrett Johnson
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**
Publisher: ACM Press
Full text available: pdf(1.46 MB) Additional Information: full citation, abstract

This course introduces the science behind image digitization, tone reproduction, and color reproduction in computer generated imagery (CGI), HDTV, and digital cinema (D-cinema). We detail how color is represented and processed as images are transferred between these domains. We detail the different forms of nonlinear coding ("gamma") used in CGI, HDTV, and D-cinema. We explain why one system's *RGB* does not necessarily match the *RGB* of another system. We explain color specification ...

6 Technologies and devices for low-power: 4T-decay sensors: a new class of small, fast, robust, and low-power, temperature/leakage sensors
Stefanos Kaxiras, Polychronis Xekalakis
August 2004 **Proceedings of the 2004 international symposium on Low power electronics and design ISLPED '04**
Publisher: ACM Press
Full text available: pdf(169.85 KB) Additional Information: full citation, abstract, references, index terms

We present a novel temperature/leakage sensor, developed for high-speed, low-power, monitoring of processors and complex VLSI chips. The innovative idea is the use of 4T SRAM cells to measure on-chip temperature and leakage.Using the dependence of leakage currents to temperature, we measure varying decay (discharge) times of the 4T cell at different temperatures. Thus, decaying 4T sensors provide a digital pulse whose frequency depends on temperature. Because of the sensors' very small size, we ...

Keywords: 4T SRAM, architecture, leakage, sensor, temperature

7 Behavioral synthesis techniques for intellectual property protection

Farinaz Koushanfar, Inki Hong, Miodrag Potkonjak

July 2005 **ACM Transactions on Design Automation of Electronic Systems (TODAES)**, Volume 10 Issue 3

Publisher: ACM Press

Full text available: pdf(439.81 KB) Additional Information: full citation, abstract, references, index terms

We introduce dynamic watermarking techniques for protecting the value of intellectual property of CAD and compilation tools and reusable design components. The essence of the new approach is the addition of a set of design and timing constraints which encodes the author's signature. The constraints are selected in such a way that they result in a minimal hardware overhead while embedding a unique signature that is difficult to remove and forge. Techniques are applicable in conjunction with an ar ...

Keywords: Intellectual property protection, behavioral synthesis, watermarking

8 VLSI circuits: Design of a nanosensor array architecture

Wei Xu, N. Vijaykrishnan, Y. Xie, M. J. Irwin

April 2004 **Proceedings of the 14th ACM Great Lakes symposium on VLSI GLSVLSI '04**

Publisher: ACM Press

Full text available: pdf(1.37 MB) Additional Information: full citation, abstract, references, index terms

This paper describes a nanowire sensor array architecture for high-speed, high-accuracy sensor systems. The chip has very simple processing elements (PEs) in a massively parallel architecture, in which each PE is directly connected to seven sensors. A sampling rate of 100 ns is enough to realized high-speed sensing feedback for electronic nose. We aim to create a very simple architecture, because a compact design is required ton integrate as many PEs as possible on a single chip. A widely used,...

Keywords: electronic nose, gas sensing, nanowire sensor array, pattern recognition, sensor pre-processing

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